

# **ENVIRONMENTALLY RESPONSIBLE CARPET CHOICES**

## **Recycled-Content Carpet and Backing, Recycling Old Carpet, and Carpet Leasing**

*National Park Service - Pacific West Region, November 2002*

### **Background**

Choosing an environmentally responsible carpet is especially important given the huge amount of carpeting used in the United States and its relatively short expected useful lifetime. The EPA says that 4 billion pounds of rugs and carpets are sent to landfills each year. Major carpet manufacturers are reacting to increasing landfill costs and regulations, and are now seeing a market advantage to improving the environmental impacts of their operations. These improvements have ranged from refurbishing used carpet to making new products from old carpet and carpet scraps, such as new carpet fiber, carpet backing, soil amendments, auto parts, and flooring materials. Companies that traditionally use nylon face fiber are now offering carpet with either post-industrial content, or a combination of post-industrial and post-consumer content. At least one company is offering a 100% reclaimed backing, while another promotes the use of less materials by producing a face fiber with 50% post-consumer content with no backing needed. Reclaiming face fibers is difficult; most lines of carpet have one-of-a-kind formulations and identifying the components of used carpet can be problematic. In addition, carpet is often contaminated and hard to collect, separate, and process. Even with these barriers, carpet is increasingly reclaimed through reuse and recycling, as the carpet manufacturing industry evolves under rapidly changing technologies.

The vast amount of carpet manufactured and installed in the US is made of synthetic materials - nylon, polyester, and polypropylene (PP) face fibers, with most backings being a sandwich of polypropylene fabric and latex. Most of the commercial carpets are made by bonding a face fiber to a backing fiber, using one of a variety of strong bonding agents. Nylon 6 and nylon 6,6 account for nearly two-thirds of the face fiber market, with polyester being the next most commonly used fiber. Although some believe that nylon 6,6 has a higher performance rating than nylon 6, others believe that it is not enough to make a difference in selection. In addition, because nylon 6 is a single polymer, it is easier and more common to chemically recycle into new nylon with the same properties as virgin nylon than it is with nylon 6,6. However, manufacturers have been recycling post-industrial nylon 6,6 into new face fiber for many years and recently manufacturers have created the technology to recycle post-consumer 6,6 nylon into new face fiber.

Several companies make carpet cushion materials that utilize recycled and natural materials such as recycled post-industrial fibers, recycled polyurethane, and jute and hair. Recycled tire rubber and recycled textiles and foam are also made into carpet pad. Many carpet lines do not require a separate cushion, especially for commercial application.

### **Making A Choice**

Environmentally responsible carpet options each have their own merits and considerations, and what you choose will in part depend on your specific need, location, and use. Nylon, polyester, and plastics are made from petroleum, a nonrenewable resource associated with high energy consumption and pollution from petroleum refining. Since the backing can contribute up to 60% of the carpet material, purchasing a nylon face fiber with 100% recycled content backing that is recyclable, is worth considering. Or, consider a carpet with post-consumer content yarn with lightweight or no vinyl backing, resulting in fewer materials used in its production. If carpet pad (rather than backing) is deemed necessary in this case, then there are many options with recycled content. Environmentally responsible carpet should include a face fiber of some recycled post-industrial and more preferable, post-consumer content (no one produces a 100% recycled nylon face fiber yet). Presently, most of the recycled nylon comes from post-industrial fiber (waste from extrusion and yarn mills, clean lint and edge trim from finishing lines) but the technology is rapidly improving to convert used nylon fiber into new carpet. As more used carpet becomes available and manufacturing plants adapt their facilities to meet the new technology, the percent of post-consumer content should increase. Keep in mind that the amount of post-industrial content should not be a selection criterion, because as companies become more efficient at reducing waste in the manufacturing process, the percentage of post-

industrial recycled content in commercial yarn should drop. However, some companies collect post-industrial waste from other plants to use in their product. Also, some manufacturers put a recycling logo on their specifications or other literature that can mislead the consumer. It may only mean that the carpet is recyclable, but does not necessarily have any recycled content. Most carpets produced today can be recycled or “down cycled” (made into products other than carpet) to some degree.

Another environmentally responsible option is carpet made from recycled PET polyester (i.e., soda bottles). Presently, it is difficult to recycle PET carpet after its useful life and only the fiber is down cycled, but this may change in the future. PET carpet is a better choice for residential needs, whereas the non-PET environmental lines described below are made more for commercial use. Leasing is another smart option for commercial applications; the manufacturer bears responsibility for replacing worn sections of carpet and recycling the used carpet.

Think about the following when deciding on a new carpet: recycling your old carpet so that it does not end up in the landfill, using carpet tiles rather than rolls to aid in spot replacement and longer life, deciding on the type of fiber (i.e., nylon, polyester PET, wool) and the recycled content and recyclability of the face fiber, backing, and cushion, the density and durability of the fiber for heavy traffic use, and how color and pattern contributes to wear. Carpet fiber construction (manufactured by tufting, weaving, and fusion bonding, of which tufting is the most common) and pile type (loop, cut, or combination) determine appearance and performance. Lower pile height and higher pile yarn density is better for high traffic areas and gives the most performance for the money. How and where the carpet will be used is very important to selection. Some people prefer the appearance and durability of nylon to polyester; others will state that recycled polyester (PET plastic) is more durable and naturally stain resistant. Wool carpet is naturally flame resistant, durable, and provides excellent indoor environmental quality, but at a higher cost. ***Floor coverings other than carpet make good environmental choices, and perhaps the best environmental choice is to use carpet only where necessary, and maintain and clean it properly so that you get the maximum life out of it.***

### **CPG (Comprehensive Procurement Guideline) Federal Requirements:**

Under the Comprehensive Procurement Guideline, Federal agencies are required to purchase items containing recovered materials (pursuant to EO 13101 and Section 6002 of The Resources Conservation and Recovery Act). Fifty-four items are currently listed; PET and nylon carpet, carpet backing, and carpet cushion are identified on this list. The recommended recovered material content for polyester face fiber is listed as 25-100% PET resin (recycled plastic soda bottles). The Envirelon (Talisman) line meets this standard. Nylon carpet face fiber has the same recommendation of 25-100%. Carpet cushion’s recommended recovered material content varies according to material: 115-50% for bonded polyurethane, 40% for jute, 100% for synthetic fibers, and 60-90% for rubber. EPA recommends 100% recycled content (30-70% post-consumer) for nylon carpet backing. For more information on carpet manufacturers and suppliers and a GSA link, visit EPA’s CPG web site:

[www.epa.gov/cpg/products/carpet.htm](http://www.epa.gov/cpg/products/carpet.htm)

### **Air Quality and Carpet Installation:**

Check to ensure that your new carpet meets indoor air quality standards. The Carpet and Rug Institute (CRI) has an Indoor Air Quality Carpet Testing Green Label which sets carpet standards. Adhering to the CRI standards is recommended, but requiring the CRI Label in specs may eliminate certain carpet manufacturers such as Collins & Aikman which exceed CRI standards, but do not use the CRI Label. Carpet can be a major source of indoor air contamination, although some tests show that carpet is one of the lowest emitters of VOCs among various interior products. The adhesives used to install carpets and the latex rubber by some manufacturers to adhere face fibers to backing materials generate volatile organic compounds (VOCs). Carpets also cover large surfaces within an interior environment and can provide “sinks” for the absorption of VOCs from other sources. Carpet should not be installed near entrance doors or areas where moisture and organic matter can contaminate them; if they are, then walk-off mats at entrances should be installed or that portion should be cleaned more often than less traveled carpet. Carpet fibers are an excellent medium for dust mites and microbial agents, especially if the carpet becomes wet and cannot be properly dried. Carpet can be purchased treated with antimicrobial agents that resist the growth of microorganisms. Installing carpets in strict accordance with the Carpet and Rug Institute guidelines, as well as additional measures such as requiring suppliers to unroll and air-out carpets in the warehouse before bringing them into the building, will

minimize the risks of indoor air quality problems resulting from the carpet. Tests indicate that carpet emissions will dissipate within 48 to 72 hours with proper ventilation.

Commercial carpets can be installed with water based, low VOC adhesives, or the products can be purchased with preapplied adhesive. Carpet tiles allow for the replacement of individual tiles when they are soiled or damaged, but the production of tiles may require more bonding agents than broadloom. A variety of adhesives are included in the CRI Green Label program; water-based adhesives are available from the distributors below. Rubber-based recycled padding is commonly used and can outgas. Recycled padding from carpet fibers may be more suitable for environmentally sensitive persons. Carpet cushion is tested in the CRI program and a variety of cushion products qualify to carry the CRI Green Label.

### **Carpet Maintenance:**

Frequent and good maintenance is the key to a long lasting and good-looking carpet. Commercial areas with heavy traffic should be vacuumed daily, with equipment that has powerful suction and an enclosed HEPA filtration bag. Every 6-12 months, the carpet should be extraction cleaned, preferably by hot water or steam. Some methods such as dry foam or dry extraction use chemicals that can emit fumes and cause indoor air quality problems. Clean up spills immediately to prevent stains and fungal growth. Use walk off mats near entranceways to prevent excessive dirt collection on nearby carpet.

### **Recycling Old Carpet:**

Purchasing new carpet means that the old carpet must be discarded and it is important that the old carpet be kept out of the landfill. Ensuring that your old carpet is recycled and made into new products is very important. There are several major methods of recycling: chemical recycling, which involves breaking down the nylon itself to be reprocessed into new carpet fiber; fiberizing, where carpet fibers are harvested and converted into padding and matting for use in laying new carpet; and mechanical, where carpet fibers are down cycled into new products or carpet is recycled into new carpet backing. Old carpet is also used in waste to energy, where materials that cannot be converted into new carpet are burned as fuel. Leftover materials can be processed into products such as parking barriers, geotextiles, lumber alternatives, fiberboard, sod reinforcement, carpet tack strip or automobile parts. Because separating yarn from the backing can be difficult, some manufacturers have developed a coding system. A bar code is stamped on the back of the carpet to identify all of the materials used in it. Several manufacturers have their own take-back program for the end of the life of the carpet (examples are provided below). Find a company that will keep your old carpet out of the landfill.

### **Other Environmental Floor Coverings:**

Natural linoleum is made from softwood powder, linseed oil, pine tree resins, cork, chalk, and jute backing. Linoleum and natural carpets use renewable resources and offer durability without compromising aesthetics. The cork used in linoleum is harvested from the cork tree on an ongoing basis without harming the tree. Linoleum products include Marmoleum by Forbo Industries, Marmorette by Armstrong, and Linosom by Domco. Bamboo is an environmental floor product due to its renewable growth and sustainable forest management practices. Natural carpets are made from grasses, cotton, and wool, with minimal treatment. Wool carpet is made from a renewable resource and is durable and biodegradable. Recycled-content tile is made from waste glass such as light bulbs and auto windshields, and a byproduct of feldspar mining. Ceramic tile offers outstanding durability and maintainability, with a high aesthetic value. Resilient flooring such as Eco-Surfaces by Dodge-Regupol (100% recycled rubber) and Stratica by the Amtico Company (non-vinyl, VOC-free, chlorine-free flooring), are available. Wood salvaged from existing buildings or from a forest certified as sustainably harvested are excellent environmental options. EcoTimber manufactures wood flooring from reclaimed, certified wood and other wood alternatives. Concrete also offers a durable environmental alternative by using less resources when a concrete slab is made into a finished floor by adding color, texture, and patterns to the top layer of concrete with no additional covering.

### **Cost:**

Recycled-content carpeting and padding is priced competitively. Recycled-content glass tile is higher priced than average tile products. Linoleum will cost more than low cost vinyl flooring. Natural carpet materials cost more than common carpet materials, but are competitively priced with standard high quality carpeting. Lifecycle costs should be taken into consideration when pricing environmental options.

### **Recycled-Content PET Carpet:**

Polyester carpet fiber is produced from recycled PET (e.g., soda and ketchup bottles). Some of the names which recycled fibers are marketed under include Resistron ISF, Resistron, and Permalon. PET fibers are naturally stain resistant and do not require the chemical treatments used on some nylon carpet. Fibers retain their color and resist fading due to sun or harsh cleaning. Shades can be richer and brighter than those found in nylon yarns. Because plastic beverage containers are made with top quality PET resins as required by the U.S. Food and Drug Administration, recycled PET is superior to lower grades of virgin synthetic fibers used in making other brands of polyester carpet yarns. PET has exceptional strength and durability, and the value of these properties is not lost in their recycling process. Easier maintenance reduces the use of cleaners that may also emit VOCs. At this time, there are no programs to recycle used PET carpet back into new carpet, but fibers can be recycled for other applications such as car parts, insulation, transportation devices, and stuffing for furniture.

## **What the Major Companies Are Doing**

### **Carpet Leasing and Reuse Programs:**

Leasing is a fairly new idea in floor covering whereby carpet manufacturers take complete responsibility for the carpet and maintain the carpet for its life for a monthly charge. Leased carpet will have the lowest first cost and the carpet is typically recycled at the end of its lease period. When the lessor wishes to remodel or remove the leased carpet, several options are available. Often the carpet can be removed, cleaned, and reused within the same building, but the feasibility varies with several factors: age, wear and tear, deterioration of the materials, condition (rips and tears are generally difficult to remedy) and contamination; if the carpet has excessive animal fur and dander, or has been contaminated with animal wastes, it cannot be reused. Some carpet distributors will recover, clean, and sell used carpet. Used carpet can also be shipped to the recycling center in some cases and a credit towards the lease or purchase of new carpet may be given.

**Interface:** Interface has a leasing program through Re:Source where, for a monthly fee, they will assume responsibility for care of the new carpet, and take back the used carpet and recycle it into new products. You can also purchase the new carpet and they will still take back the old carpet.

**ReEntry** is a system for reclamation of used carpet put in place by Bentley, Interface, Prince Street, and Re:Source Americas, a national network of floor covering professionals. ReEntry promotes “repurposing” where clean and refurbished used carpet is offered to groups who could not otherwise afford new carpet. If carpet is purchased from Re:Source Americas, Bentley, Interface or Prince Street, and existing carpet needs to be disposed of, the ReEntry program will take back the old carpet and either down cycle it into other products or energy, recycle it, or repurpose it.

ReEntry (888) RE ENTRE	Interface Leasing (800) 336-0225	Bentley Mills (800) 423-4709	Re:Source Technologies (800) 221-4799
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[www.interfaceinc.com/us/services/reclamation](http://www.interfaceinc.com/us/services/reclamation)

**DuPont** has a nationwide program that provides installation, maintenance, and recycling of nylon carpet at the end of its use. Individual carpet distributors run other leasing programs. DuPont (888) 422-3999, <http://flooring.dupont.com>.

**Shaw Industries** also manages a leasing program. With Shaw's Tile Reuse Program, products that may no longer meet the demands of a corporate or hospitality setting are donated to organizations. (800) 441-7429. [www.shawinc.com](http://www.shawinc.com)

**Mohawk Industries** offers an installation and recycling service available through local Mohawk representatives. [www.mohawkcarpet.com](http://www.mohawkcarpet.com)

**Milliken Carpet (carpet reuse):** Earth Square or Earthwide Ennovations (E2) is Milliken's name for its renewal process for used modular carpet. Milliken Carpet promotes the concept of reuse through a service installation and maintenance plan. They will take your old carpet tiles, then clean, rejuvenate, restyle, and reinstall them with a new warranty for about half the cost of new installation. The modular system allows individual pieces to replace worn or soiled tiles. After 8 to 10 years, the carpet is sent back for refurbishing and new carpet or carpet that has been refurbished elsewhere is installed. The E2 service is built on the premise that a sizable amount of commercial carpet isn't replaced because it has worn out, but simply because it is "time for a change."

MilliCare Environmental Services program called Perpetual Floor Plan is a total package including maintenance and reuse options.

Milliken Carpet  
(800) 257-3987  
[www.millikencarpet.com](http://www.millikencarpet.com)

Earth Square  
(877) E2-RENEW  
[www.earthsquare.com](http://www.earthsquare.com)

MilliCare Environmental Services  
(888) 88MCARE  
[www.millicare.com](http://www.millicare.com)

Currently, there are no known companies that run leasing programs for PET carpet.

### **Suppliers of Recyclable and Recycled Content Carpet and/or Backing, With Reclamation Programs:**

**BASF:** BASF Corporation, a major supplier of nylon 6, through its 6ix Again closed-loop program, takes used nylon 6 carpet to one of four collection centers in the U.S. where it separates the face fiber and repolymerizes it to make new nylon. If replacing a BASF carpet with a non-BASF carpet, the new carpet supplier can recycle the carpet through the 6ix Again program – but the carpet must contain Zeftron nylon 6ix yarn. However, if installing a BASF product, 6ix Again will accept any carpet for recycling.

BASF  
(800) 477-8147  
[www.nylon6ix.com](http://www.nylon6ix.com)

6ix Again Service Center  
(800) 839-3233

**DuPont Flooring:** DuPont, another major supplier of nylon used in carpet (e.g. Antron), operates the nation's largest mechanical recycling system. Whenever DuPont Flooring Systems removes and replaces commercial carpet, the old carpet, regardless of the manufacturer, fiber type or construction, is recycled. This reclamation program processes the used carpet into raw materials for a variety of uses such as automobile parts, sod reinforcements, soundproofing, and industrial flooring. MSA Industries provides local reclamation sites in major cities across the U.S., and may accept old carpet even if Dupont products or installers are not used for your new carpet (check with the local reclamation center). DuPont has a Type 6,6 face fiber called Antron Lumena that contains 4-10 % post-industrial content. Higher recycled content fibers are available on a special order basis.

**SelecTech** produces a new, heavy-duty flooring product from used carpet recycled by the DuPont Carpet Reclamation Program. Called "RepTile," this is an industrial-strength floor tile, containing 75% post-consumer recycled carpet in black and grey, and 10% in other colors. It is available from the company, or locally from DuPont Flooring Systems.

DuPont Flooring Systems  
(800)4-DUPONT, prompt 5  
(800) 438-7668

DuPont Carpet Reclamation Program  
(888) 844-6724

SelecTech  
Tauton, MA  
(877) 738-4537

**C & A Floorcoverings:** C&A (Collins and Aikman) produces floor coverings with a 100% reclaimed content backing called Powerbond ER3. The backing is produced in the company's closed-loop recycling process and is the standard in the company's modular tile product line. The 100% recycled content backing results in an overall 31 to 52% total recycled content carpet (when adding in the face fiber). C&A offers an installation system that eliminates the use of wet adhesives; and no airing out is required. Products with preapplied adhesive are installed using a "peel and stick" method, which virtually eliminates VOCs. Many carpet styles also contain post-industrial and post-consumer, recycled content nylon 6,6 face fiber. The Repeat® yarn system contains a minimum of 82% recycled content (75% post-industrial), and several colors of DuPont Antron Lumena contain 4-10 % post-industrial recycled content. The Habitat line combines Repeat reclaimed nylon 6,6 with the 100% recycled content ER3 backing. C&A conserves resources by producing a very dense, low pile nylon face. C&A offers a closed-loop take back program called the Infinity Initiative where they will take vinyl backed carpet at the end of its useful life (regardless of the original manufacturer) and guarantee that all of it will be recycled into floor coverings. All C&A products, including ER3 recycled content carpet, can be recycled again and again after their 15-20 year life.

Collins and Aikman  
(800) 248-2878  
[www.powerbond.com](http://www.powerbond.com)

Buyback and Recycle Program: (800) 248-2878

**Shaw Industries:** Shaw, a supplier of carpet yarn, carpet, and pad, collects used carpet and recycles it into a number of products, including carpet underlayment, new carpet, marine building materials, industrial felt, and plastic car parts. Shaw has a commercial, post-consumer, recycled content fiber called EcoSolution Q. When used with Shaw's 100% recyclable, non-PVC backing called EcoWorx, it makes a fully recyclable carpet tile. EcoWorx is made from a 40% post-consumer recycled content thermoplastic polyolefin compound with a fiberglass layer for reinforcement. Old EcoSolution Q yarn is used for injection-molded automotive parts; used EcoWorx will be melted down for new backing. The Type 6 EcoSolution Q yarn contains up to 25% post-consumer and post-industrial nylon waste. EcoSolution Q has the same easy maintenance properties of virgin nylon, but requires much less water to produce. It comes in tile and broadloom. Peel and stick tiles use acrylic and cellulose and no VOCs. Shaw also makes a residential 50-70% recycled PET carpet called Renew, but it is not recommended for commercial use. Shaw's carpet cushion made from 100% recycled content, Endurance™ II Carpet Pad, is an underlay pad made from recycled carpet seams, waste yarn, and carpet selvedge (trimmings). Shaw's closed loop program will also recycle any used carpet upon installation of a new Shaw carpet.

Shaw Industries  
(800) 441-7429  
[www.shawinc.com](http://www.shawinc.com)

**Interface:** Interface has adopted a sustainable strategy to reduce, reuse, reclaim, recycle, and redesign in all aspects of production. Interface will not landfill used carpet; some is refurbished and shipped to other countries. NexStep non-PVC (polyurethane) cushion and backing is made with 10% recycled content and can be separated and reclaimed into new cushion backing. GlasBac RE PVC backing contains 100% recycled content (20% post-consumer) and is used in the recyclable Sabi 6,6 nylon carpet line that has a low face weight (conserving resources). It comes in both tile and broadloom, and is laid with low VOC adhesives or tape. Interface's DejaVu carpet line is made from 100% post-industrial 6,6 nylon; total recycled content is 75% (fusion materials account for the non-recycled content), with a 100% recycled content (post consumer and industrial) PVC backing. It comes in modular tile only, using no adhesives that may contain VOCs. Interface is presently down cycling the face fiber into auto parts and other products, but backing is fully recycled into new backing. Interface's line called Prairie School has a 100% post-industrial, recycled content nylon face, and a post-industrial, recycled content backing that is 100% recyclable. It comes in looped pile and the color choices and construction make it is more visually attractive than the DejaVu line. Interface plans to introduce an organically grown and biodegradable corn product carpet line called PLA in 2003.

Interface Flooring Systems, Inc.  
(800) 336-0225

[www.interfaceinc.com](http://www.interfaceinc.com)

**Mohawk Industries:** Mohawk is one of the largest carpet manufacturers in the world. It produces a line called Infinity™ made by Honeywell, which is a 50% recycled content (25% post-consumer, 25% post-industrial) nylon, woven rolled carpet. The 50% recycled content comes from old Type 6 nylon carpet and is used in the nylon facing of the carpet. Interestingly, the company reports that no backing is needed with this face fiber, which means that far less materials are used, including PVC, and no chemicals related to PVC such as chlorine and phthalates are needed for the backing. Carpet pad may be desired in non-commercial settings, which can be purchased with recycled content. A carpet cushion called BioBalance is made with soybean oil, an environmental alternative to other recycled content cushions. Mohawk also has lines of Infinity modular tile. The Infinity nylon program will accept used carpet made with nylon 6 fiber from any manufacturer or source, not just from Anso® products. The only requirement is that the carpet be identified as nylon 6, which can be tested by your local carpet collector. Installation and take-back programs can be coordinated through a local Mohawk subcontractor.

Mohawk Industries - Contact your local Mohawk distributor.

orders/samples (800) 622-6228

installation/maintenance assistance (800) 553-6045

[www.infinitynylon.com](http://www.infinitynylon.com)

[www.mohawcarpet.com](http://www.mohawcarpet.com)

### **GSA Carpet Contracts:**

Environmental carpets are available on the GSA schedule, including Envirelon, Collins & Aikman, Interface, DuPont, Mohawk, Shaw, and more. Depending on the manufacturer, a single contract can include the purchase of a new carpet, installation, and old carpet removal and recycling. To view the GSA schedules for carpet, visit [www.fss.gsa.gov](http://www.fss.gsa.gov), click on “Schedules e-Library” on the lower right-hand side, and go to the Federal Supply Schedule 72 I A.

### **For More Information On Carpet Options:**

Greenbuilders Sourcebook (Austin, TX)

[www.greenbuilder.com/sourcebook/floorcoverings.html](http://www.greenbuilder.com/sourcebook/floorcoverings.html)

The Carpet and Rug Institute

(800) 882-8846

[www.carpet-rug.com/](http://www.carpet-rug.com/)

Green Seal’s Choose Green Report on Floor Coverings

[www.moea.state.mn.us/lc/greenseal/cgr\\_9901.pdf](http://www.moea.state.mn.us/lc/greenseal/cgr_9901.pdf)

Environmental Building News & Green Spec Binder

[www.buildinggreen.com](http://www.buildinggreen.com)

EPA’s Product Stewardship Report on Carpet

[www.epa.gov/epr/products/carpet.html](http://www.epa.gov/epr/products/carpet.html)

State of Minnesota’s National Agreement on Carpet Recovery

[www.moea.state.mn.us/carpet/index.cfm](http://www.moea.state.mn.us/carpet/index.cfm)

Carpet America Recovery Effort

[www.carpetrecovery.org](http://www.carpetrecovery.org)

Janitorial Products Pollution Prevention Project (JP4)

Safe & Effective Carpet Cleaning

[www.westp2net.org/Janitorial/factsheets/](http://www.westp2net.org/Janitorial/factsheets/)

[carpetcleaning.htm](http://www.westp2net.org/Janitorial/factsheets/carpetcleaning.htm)

## Manufacturers and Distributors of Recycled-content Cushion and Padding:

**Dodge-Regupol, Inc.:** 100% recycled tire rubber carpet pad. Can withstand temperatures from 40 to 120 degrees. Free of toxic materials such as PCB, mercury, and formaldehyde.

P.O. Box 989  
Lancaster, PA 17608-0989  
(717) 295-3400 or (800) 322-1923  
[www.regupol.com](http://www.regupol.com)

**Dura Undercushions, Ltd.:** Carpet pad manufactured in a cellular structure from ground tire scrap rubber granules bonded with latex. Can be installed using either conventional tackless method or by double-stick method. Made from 92% recycled tire rubber. Originally developed in the United Kingdom in the 1950's.  
8525 Delmeade Road  
Montreal, PQ H4T 1M1  
(514) 737-6561  
(800) 295-4126  
[www.dura-son.com](http://www.dura-son.com)

**EchoSoft (DuPont):** 100% recycled fiber, available for double-glue and stretch-in applications.  
(800) 441-7515  
[www.dupont.com](http://www.dupont.com)

**Fairmont Division (Leggett & Platt):** 100% recycled bonded cushion from polyurethane foam.  
2245 W. Pushing Rd.  
Chicago, IL 60609  
(800) 475-0010, (773) 376-1300  
[www.lpurethane.com](http://www.lpurethane.com)

**Foamex International, Inc.:** 100% recycled content in Rebond Carpet Cushion, a bonded polyurethane product.  
1000 Columbia Avenue  
[www.shawinc.com](http://www.shawinc.com)

## Manufacturers or Distributors of Recyclable Nylon Carpet That Has Recycled Content or Reclaimed Backing:

**Interface Flooring Systems, Inc.**  
PO Box 1503  
La Grange, GA 30241  
(800) 336-0225  
[www.interfaceinc.com](http://www.interfaceinc.com)

**The Carpet Factory, Inc.:** Their website also provides links to many different manufacturers who produce recyclable carpets.

Linwood, PA 19061  
(800) 776-3626  
[www.foamex.com](http://www.foamex.com)

**Homasote Company:** 4-way floor decking is a structural, noise-deadening sub-floor and insulating carpet underlayment made with 100% recycled content newspaper.  
Box 7240  
West Trenton, NJ 08628-0240  
(800) 257-9491  
[www.homasote.com](http://www.homasote.com)

**Reliance Carpet Cushion:** Uses 100% recycled materials, mainly from the textiles industry, and uses no CFC's, latex, or chemical additives.  
15700 S. Main St.  
Gardena, CA 90248  
(800) 522-5252

**RB Rubber Products:** Sells rolls with 97% recycled rubber for carpet underlayment.  
904 E. 10<sup>th</sup> Ave.  
McMinnville, OR 97128  
(800) 525-5530  
[www.rbrubber.com](http://www.rbrubber.com)

**Shaw Industries**  
P.O. Drawer 2128  
Dalton, GA 30722  
(800) 441-7429, (706) 275-2137

**Southwest Fibers (Leggett & Platt):**  
Formaldehyde free; recycled carpet fibers.  
Mexia, TX  
(254) 562-2814  
[www.lpurethane.com](http://www.lpurethane.com)

12407 Madeley Lane Suite 202  
Bowie, MD 20715  
(800) 240-2254  
[www.carpetfactory.com](http://www.carpetfactory.com)

**J&J Industries:** Encore SD Ultima, 25% recycled face fiber.  
PO Box 1287  
Dalton, GA 30722

(800) 241-4586  
[www.jjindustries.com](http://www.jjindustries.com)

**Mannington Mills:** Infinity series backing, 25%-40% recycled content + recycled content face fiber by DuPont.  
PO Box 12281  
Calhoun, GA 30703  
(800) 241-2262  
[www.mannington.com](http://www.mannington.com)

**Lees Commercial Carpets**  
3330 W. Friendly Avenue  
P.O. Box 26027  
Greensboro, NC 27420  
(800)523-5647  
[www.leescarpets.com](http://www.leescarpets.com)

Blue Ridge Commercial Carpet  
1546 Progress Road  
Ellijay, GA 30540  
(800) 241-5945  
[www.blueridgecarpet.com](http://www.blueridgecarpet.com)

**Mohawk** owns Bigelow, Karastan, Harbinger, and other residential brands:

**Mohawk Commercial Carpet**  
(800) 622-6228  
[www.mohawkcommercial.com](http://www.mohawkcommercial.com)

**Karastan**  
[www.karastan.com](http://www.karastan.com)

**Bigelow Carpet**  
[www.bigelowcommercial.com](http://www.bigelowcommercial.com)

Carpets using **DuPont's Antron** recyclable nylon fiber are offered from the following three groups. Contact your local carpet distributor and ask about DuPont Antron fiber for additional manufacturers:

**Atlas Carpet Mills, Inc.**  
2200 Saybrook Avenue  
City of Commerce, CA 90040  
(213) 622-2314  
[www.atlascarpetmills.com](http://www.atlascarpetmills.com)

**Collins & Aikman Corp.**  
C&A Floorcoverings  
P.O. Box 1447  
Dalton, GA 30720  
(800) 241-4080 or (800) 248-2878  
[www.powerbond.com](http://www.powerbond.com)

**Interface Flooring Systems, Inc.**  
(800) 336-0225  
[www.interfaceinc.com](http://www.interfaceinc.com)

## **Manufacturers and Distributors of Natural Carpet (wool, sisal, seagrass, jute):**

**Bloomsburg Carpet Industries:** Natural wool carpets  
805 Third Avenue  
New York, NY 10022  
(800) 233-8773  
[www.bloomsburgcarpet.com](http://www.bloomsburgcarpet.com)

**Dellinger Inc. Rugs:** Makes cotton and wool rugs and carpets.  
P.O. Drawer 273  
Rome, GA 30161  
(706) 291-7402

**Eco-Wise:** Natural wool carpeting, natural fiber mattings of coir, seagrass, and sisal.  
110 W. Elizabeth  
(512) 326-4474  
Austin, TX 78704  
[www.ecowise.com](http://www.ecowise.com)

**Naturlich Natural Home:** 100% wool carpeting, can be installed wall to wall or as area rugs.  
P.O. Box 1677  
Sebastopol, CA 95473-1677  
(707) 824-0914  
[www.naturalhomeproducts.com](http://www.naturalhomeproducts.com)

**Sinan Co.:** Wool and jute carpets, installed by stretching or water-based gluing.  
P.O. Box 857  
Davis, CA 95617-0857  
(530) 753-3104  
[www.dcn.davis.ca.us/go/sinan](http://www.dcn.davis.ca.us/go/sinan)

## Manufacturers or Distributors of PET (recycled plastic) Carpet:

**Talisman Mills (The Envirelon line):** Uses fiber consisting of 100% PET nylon. Carpet is glued to the subfloor and the backing is polypropylene.

6000 Executive Dr.  
Mequon, WI 53092  
(800) 482-5466  
[www.talismanmills.com](http://www.talismanmills.com)

**Beaulieu of America:** The Caladium line is a 100% recycled PET fiber carpet that meets CRI air quality standards.

Dalton, GA  
(800) 227-7211  
(706) 278-6666  
[www.beaulieu-usa.com](http://www.beaulieu-usa.com)

## Manufacturers or Distributors of Environmentally Preferable Adhesives:

**PL Adhesives & Sealants:** “PL Premium” construction adhesive (no VOCs)

ChemRex Inc.  
889 Valley Park Dr.  
Shakopee, MN 55379-1854  
(612) 496-6000  
[www.osisealants.com/PL](http://www.osisealants.com/PL)

**AFM Enterprises:** Makes a non-toxic, water-based, 3-in-1 Safecoat Adhesive.

350 West Ash St., Suite 700  
San Diego, CA 92101  
(619) 239-0321  
[www.afmsafecoat.com](http://www.afmsafecoat.com)

**DAP Inc.:** DAP Weldwood Carpet Adhesive is a low-VOC, latex-based, non-flammable adhesive.

Dayton, OH 45401  
(888) DAP-TIPS  
[www.dap.com](http://www.dap.com)

**Franklin International:** Titebond Solvent-Free construction adhesive (nearly no VOC's, 5 gm/ltr)

2020 Bruck St.  
Columbus, OH 43207  
(800) 347-4583  
[www.titebond.com](http://www.titebond.com)

**Sinan Co.:** Water-based “Auro” brand natural adhesive

P.O. Box 857  
Davis, CA 95617-0857  
(530) 753-3104  
[www.dcn.davis.ca.us/go/sinan](http://www.dcn.davis.ca.us/go/sinan)

## **NPS Testimonials:**

The National Capitol Region used the Envirotech (PET) line from Image Carpets.

Fort Clatsop National Monument installed Envirelon (PET) carpet from Talisman Mills in the entry, the lunchroom and two offices in a maintenance building.

North Cascades National Park chose Envirotech (PET) from Image Carpets for use in several residential duplexes.

Lake Roosevelt National Recreation Area used Envirelon (PET) carpet from Talisman Mills in their maintenance offices.

Lassen Volcanic National Park used Collins and Aikman Powerbond ER3 reclaimed backing in their office space.

The Presidio of San Francisco used Collins and Aikman, Shaw, and Mohawk environmental lines in many of their buildings. Mohawk “backless” is now their preferred option.

Olympic National Park used Shaw’s Topiarre line (Paxton style) with EcoWorx backing in administrative offices and visitor centers.

Klondike Gold Rush National Historic Park used Shaw carpet in their visitors center.

USS Arizona Memorial used Shaw’s Bookends Modular Tile and EcoWorx Backing in their headquarters building.

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*This report was produced by and for the National Park Service. Comments and feedback should be sent to:*

*[sonya\\_capek@nps.gov](mailto:sonya_capek@nps.gov)*

*Of particular interest are testimonials of environmental preferable carpets.*